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## I CLAIM:

1           1. A hydrocyclone for separating solid particles from  
2 a particle-carrying fluid, the hydrocyclone comprising:  
3           a housing having an inner surface defining a chamber;  
4           means including a port opening into the chamber for  
5 admitting the particle-carrying fluid into the chamber for  
6 forming therein a vortex flow of the fluid; and  
7           a tube connected axially to the housing, forming an  
8 outlet therefor and having an inner surface, the inner surfaces  
9 of the tube and housing being composed of a hard material  
10 consisting essentially of tungsten-carbide particles in a  
11 metallic binder having a nickel content of at most 12% and a  
12 chromium content equal to at most 15% of the nickel content.

1           2. The hydrocyclone defined in claim 1 wherein the  
2 chromium content is equal to between 0.5% and 10% of the nickel  
3 content.

1           3. The hydrocyclone defined in claim 1 wherein the  
2 metallic binder has a nickel content of about 8.5% and a chromium  
3 content of about 1.3%.

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1           4. The hydrocyclone defined in claim 1 wherein the  
2     hard material also consists of other carbides selected from the  
3     group comprised of titanium carbide, niobium carbide, tantalum  
4     carbide, chromium carbide, and molybdenum carbide.

1           5. The hydrocyclone defined in claim 1 wherein the  
2     particles have an average particle size of between 0.1  $\mu\text{m}$  and  
3     2.5  $\mu\text{m}$ .

1           6. The hydrocyclone defined in claim 1 wherein the  
2     particles have a density between 14.4  $\text{g}/\text{cm}^3$  and 15.2  $\text{g}/\text{cm}^3$ .

1           7. The hydrocyclone defined in claim 1 wherein the  
2     particles have a hardness of at least 1700 HV10.

1           8. The hydrocyclone defined in claim 1 wherein the  
2     particles have  
3           an average particle size of between 0.15  $\mu\text{m}$  and  
4     0.5  $\mu\text{m}$ ;  
5           a density between 14.0  $\text{g}/\text{cm}^3$  and 15.0  $\text{g}/\text{cm}^3$ ; and  
6           a hardness between 1700 HV10 and 1800 HV10.

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1                   9. The hydrocyclone defined in claim 8 wherein the  
2 particles have a density of about 14.55 g/cm<sup>3</sup>.

1                   10. The hydrocyclone defined in claim 8 wherein the  
2 particles have a hardness of about 1760 HV10.

1                   11. The hydrocyclone defined in claim 10 wherein the  
2 particles are a powder-metallurgically produced sintered hard  
3 material.